

Application Serial No. 10/571,730
Attorney Docket No. 10191/4357
Reply to Office Action of April 7, 2009

AMENDMENTS TO THE TITLE:

Please replace the title as follows:

--SENSOR SYSTEM AND METHOD FOR SEQUENTIAL TRANSMISSION OF DATA--.

AMENDMENTS TO THE SPECIFICATION:

Please insert the following before the first paragraph at page 1, line 1, of the Substitute Specification as follows:

--RELATED APPLICATION INFORMATION

This application is a National Stage Application of PCT International Application of PCT/DE2004/001605, filed July 22, 2004, and which claims priority to German Patent Application No DE 103 42 625.6, filed September 15, 2003, each of which are incorporated herein by reference in its entirety.--.

Please amend the paragraph beginning at page 4, line 17 and which ends at page 5, line 4, of the Substitute Specification as follows:

--Figure 1 illustrates the present invention in a block diagram. Sensors S1, S2 to Sn are connected to a control unit SG in parallel to one another via a line L, which is designed as a two-wire line. Voltage level US is applied to line L. This voltage level US is impressed on line L by control unit SG. Control unit SG is thus used as a power source for sensors S1, S2 to Sn connected to line L. The control unit uses the power consumption to verify the number of sensors connected to line L. No power supply lines are provided for sensors S1, S2 to Sn nor is energy storage provided in sensors S1, S2 to Sn. The sole supply of power for sensors S1, S2 to SN is via line L. Sensors S1, S2 to Sn transfer data unidirectionally to control unit SG which has a receiver module for receiving these data. As a function of these data, control unit SG activates, for example, restraining means such as airbags or belt tensioners. To prevent collisions between the data of individual sensors S1, S2 to Sn on line L, a mechanism is provided which controls the transmission of individual sensors S1, S2 to Sn. According to the present invention, the variation of voltage US on line L initiates the transmission process while each of individual sensors S1, S2 to Sn has a timing sequence control system which is designed in such a way that it assigns a time slot for transmission to each of sensors S1, S2 to Sn, i.e., overlaps of these time slots are avoided. For that reason, timing sequence control system in individual sensors S1, S2 to Sn must already be set by the manufacturer in order to coordinate these time slots with one another. In this case, this means that sensor S1 first

transmits its data in one time interval and sensor S2 then sends its data in a subsequent time interval. This is carried out until last sensor S_n has sent its data.--.

Please amend the paragraph at page 5, lines 9 to 22, of the Substitute Specification as follows:

--However, it is also possible that after sensor S_n has transmitted its data, control unit SG reduces the voltage on line L to terminate the transmission. The event that triggers the transmission is the increase of voltage US. Voltage US may be increased abruptly or gradually. If voltage US exceeds a threshold value which is tested by individual sensors S_1 , S_2 to S_n , the point in time is then set at which timing sequence control system starts. Voltage US represents a power level that is assigned to sensors S_1 , S_2 to S_n . In the phase in which the voltage level that prompts the transmission of data is not maintained on line L , a rest phase voltage U_1 is present which makes operation of the sensors possible without it being necessary for them to perform a reset when they are supposed to transmit again. As an alternative, it is also possible for voltage US to be raised above the threshold only briefly in order to trigger the event and then return to a lower voltage level because it is then no longer necessary to trigger the event. However, it may, as stated, be maintained at the increased voltage level for the entire transmission phase.--.